

Mercury-containing Equipment (WAC 173-303-573(3-4))

This publication focuses on the Universal Waste (UW) requirements for mercury-containing equipment. Publication number 98-407, [The Universal Waste Rule](#) provides more details on these requirements and the advantages of UW management.

How is “mercury-containing equipment” defined?

Mercury-containing equipment is a broad category of UW including any device or part of a device that contains elemental mercury necessary for its operation. Mercury has been used in hundreds of devices at levels ranging from less than a gram up to several pounds. A few examples include:

- | | |
|----------------|-----------------|
| ▶ Thermometers | ▶ Thermostats |
| ▶ Barometers | ▶ Tilt switches |
| ▶ Manometers | ▶ Flame sensors |

Mercury-containing equipment does not include:

- Mercury waste generated as a by-product of manufacturing or waste treatment.
- Elemental mercury such as in vials or jewelry containing drops of mercury.
- Dental amalgam.
- Rubber flooring made with mercury.
- Chemical compounds containing mercury (e.g., pharmaceuticals, pesticides, paints, or lab chemicals).
- Intact devices or toys with removable mercury-containing batteries or lamps (batteries and lamps can be removed and handled according to their UW category).

A **mercury-containing thermostat** is defined as a temperature control device that contains metallic mercury in an ampule attached to a bi-metal sensing element. Thermostats are a type of mercury-containing equipment and are managed in the same way, although alternative labeling is permissible.

Accumulation start date

Both used and unused MCE become wastes on the date the handler decides to discard them.

WHY IT MATTERS

Any business that generates dangerous waste must follow the dangerous waste rules, Chapter 173-303 WAC. In Washington State, the Universal Waste Rule allows less burdensome management of these wastes:

- Batteries, (98-407a)
- Mercury-containing equipment (98-407c)
- Lamps (98-407c)

Businesses have the choice of managing these wastes as universal waste or dangerous waste. Universal waste requirements for storage, transportation, and collection are less stringent.

Visit our website:

http://www.ecy.wa.gov/programs/hwtr/dangermat/universal_waste.html

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Special accommodations

To ask about the availability of this document in a version for the visually impaired, call the Hazardous Waste and Toxics Reduction Program at 360-407-6700. Persons with hearing loss, call 711 for Washington Relay Service. Persons with a speech disability, call 877-833-6341.

Labeling and marking MCE

Label or mark each device or container of devices with one of the following phrases:

- Universal Waste – Mercury-containing equipment
- Waste Mercury-containing equipment
- Used Mercury-containing equipment

Labeling and marking thermostats

As one option, you may label or mark single thermostats or a container of thermostats with one of the following phrases:

- Universal Waste – Mercury thermostat(s)
- Waste Mercury thermostat(s)
- Used Mercury thermostat(s)

Accumulation and dating

You can accumulate MCE for one year from the date they are generated. To document this, the collection container or individual UW device is typically marked with the first date a device is placed in it. An extension to the one-year accumulation limit is allowed if the facility needs more time to collect enough items to facilitate proper recovery, treatment, or disposal.

Performance standards for ampules

Ampules removed from thermostats and other MCE can also be managed as UW. Use a containment system (e.g., plastic tub under the work area) to prevent spills during removal. Store and transport ampules in closed containers and in a manner that avoids breakage.

Leaks

Place leaking ampules or other MCE in an air-tight container.

Mercury in open housing

MCE with mercury in an open housing (e.g., barometers) can be managed as UW following appropriate precautions. The open housing can be removed, sealed airtight and managed the same as ampules.

If not removed, the housing should be sealed prior to transport and the whole device placed in a closed container.

Large Quantity Handlers of Universal Waste (LQHUW)

When a handler exceeds 11,000 pounds (or 2,200 pounds for lamps), they become an LQHUW and are subject to extra requirements, including:

- Notification to Ecology of LQHUW status, and which specific types of UW they manage.
- Tracking type and quantity of universal wastes received and shipped.
- Obtaining a RCRA Site Identification Number.

Transporting UW mercury-containing equipment

You may self-transport UW mercury-containing equipment, complying with applicable U.S. Department of Transportation regulations. Refer to Ecology publication number 98-407 *The Universal Waste Rule* for details.

A dangerous waste generator has the choice of managing MCE as UW or under the more stringent dangerous waste requirements. In most cases UW management is easier and a preferable alternative to dangerous waste management. Note that businesses who generate and manage both dangerous wastes and UWs are considered dangerous waste generators and UW handlers. Regardless if you are a generator or a handler, you are liable for ensuring your waste is managed properly once it leaves your site.

Where do I send them?

Universal wastes may be sent to either another handler (acting as a collection point) or to a destination facility. Another handler could include any business that is already managing UW, government-sponsored collections, or hazardous waste management firms.

Businesses that recycle or dispose of UW are called destination facilities. Ultimately, all UW must go to a destination facility. They are subject to dangerous waste regulations for recyclers and hazardous waste disposal facilities. A facility that only accumulates UW would not be a destination facility.

The major thermostat manufacturers set up the Thermostat Recycling Corporation (TRC) to provide recycling of thermostats at participating thermostat wholesale stores. Contractors are encouraged to return old thermostats to the store. Some stores will accept used thermostats from homeowners and other types of businesses. Participating stores can be located at <http://www.thermostat-recycle.org>.

How do I manage household MCE?

Homeowners are not required to manage their thermostats and MCE as UW, but are strongly encouraged to take them to a local household hazardous waste collection facility if available.

Why is MCE hazardous?

Mercury-containing devices can contain high levels of mercury that makes them a dangerous waste when discarded. Thermostats and thermometers are one of the largest sources of mercury in landfills. When thrown into the garbage, the ampule or glass can break, spilling the mercury. Some MCE can break while in use, spreading mercury droplets and contaminating the area. Because mercury is very toxic to humans and wildlife, it is important to prevent releases to the environment. To avoid future liability, replace mercury-containing devices with non-mercury alternatives.

Department of Ecology Regions

<http://www.ecy.wa.gov/programs/hwtr>

